August 26, 2005

Mr. Joel Coffman, P.G.
NAPA COUNTY
Department of Environmental Management
1195 Third Street, Room 101
Napa, CA 94559-3082

Re: Request for Closure
3080 Jefferson Street, Napa, California
Napa County Site LOP-0270, USTCF Claim No. 3340

Dear Mr. Coffman:

Malcolm Pirnie, Inc. (Malcolm Pirnie) submitted the December 17, 2004 Remedial Action Plan (RAP) to the Napa County Department of Environmental Management (NCDEM) to propose an aggressive remedial approach to more quickly move the Jefferson Car Wash Site (Site) located at 3080 Jefferson Street, Napa, California to closure (Figure 1). However, upon review of the most recent groundwater monitoring data for the Site, the NCDEM determined there was no apparent need to pursue the more aggressive remedial approach described in the RAP, and in a letter dated May 5, 2005, recommended evaluating natural attenuation as an alternative remedial approach.

Malcolm Pirnie has assessed the natural attenuation of MTBE in groundwater beneath the Site, and based on our evaluation is requesting closure of the site. This letter briefly presents the relevant historical site-specific information, assesses natural attenuation of MTBE as a remedial approach at the Site, evaluates the timeframe to achieve the Maximum Contaminant Levels (MCLs) for MTBE in groundwater beneath the Site, and requests Site closure.

Hydrostratigraphy

The Site is located within the Napa groundwater basin, part of the Napa River drainage system. The Site is underlain by alluvium deposited by the Napa River or its tributaries and older volcanic sediments. Subsurface lithology consists primarily of interbedded lenses of sandy silt, sandy clay, silty sand, and clayey silt to approximately 15 feet below ground surface (ft bgs). Sandy gravel to gravelly clayey sand is encountered from approximately 15 ft bgs to 25 ft bgs. The thickness of this permeable water-bearing zone (shallow zone) ranges from three feet to nine feet. Clayey silt to silty clay is generally encountered from approximately 25 ft bgs to 35 ft bgs. Gravelly sand water-

bearing zones of two feet to eight feet thick, interbedded with lenses of clayey silt, are present from 35 ft bgs to 60 ft bgs (where investigated). Clayey silt is commonly present from 60 ft bgs to 70 ft bgs, the maximum depth investigated.

Shallow groundwater is typically encountered between 11 and 17 ft bgs. Historic water level measurements indicate shallow groundwater commonly flows to the east-southeast beneath the Site under an average gradient of 0.012 feet per foot. Groundwater flows onto the site from the west-southwest and from the northwest (Figure 2). The hydraulic conductivity of the shallow water-bearing unit, based on a single pumping test using extraction well EW-1, ranges from 1.6 to 4 feet per day. Hence, the groundwater flow velocity in the shallow water-bearing is calculated to be between 0.1 to 0.25 feet per day (35 to 90 feet per year) beneath the Site.

Site Water Quality Data Summary

Site groundwater samples have been collected and analyzed on a quarterly basis since mid-1995. Between 1992 and 2002, total petroleum hydrocarbons (TPH) naturally attenuated from a maximum of 31,000 micrograms per liter (µg/L) to below analytical method reporting limits in most Site-related wells. Between 1992 and 2001, benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations naturally degraded from a maximum of 5,600 µg/L to below analytical method reporting limits in most Site-related wells. Groundwater samples were first analyzed for the presence of MTBE in 1997, with results ranging from non-detect to a maximum of 24,000 µg/L (well BC-2). The maximum on-site concentration reported in well BC-2 is 35,400 µg/L in March 1999. Concentrations of MTBE reported in samples collected from Site wells during the most recent groundwater monitoring in August 2005 ranged from 9.9 µg/L to 44 µg/L. MTBE concentrations versus time for onsite wells, BC-1 through BC-5, are illustrated on Figures 3 through 7.

Groundwater Extraction and Treatment System Operational Review

In March 2003, NCDEM approved the construction of an interim groundwater extraction and treatment system (GWETS) at the Site to prevent the off-site migration of dissolved MTBE in shallow groundwater and remove dissolved MTBE from the subsurface. The GWETS consists of:

- Two extraction wells.
- One sediment filtration unit.
- Three granular activated carbon (GAC) vessels connected in series, with two vessels operating at one time.
- System instrumentation and controls.
- Water-conveyance piping.

The two extraction wells, located downgradient of the Site (Figure 2), extract and pump groundwater through the treatment train, housed in a secondary containment (treatment pad). The extracted groundwater first passes through the filtration unit for sediment removal, and then through the GAC vessels for MTBE removal. The treated groundwater is discharged into an on-site sanitary sewer.

The GWETS startup occurred on March 29, 2004 and it operated for approximately 15 months, in accordance with Napa Sanitation District Industrial User Permit (No: 495950). The GWETS removed an estimated 3,480,210 gallons of groundwater and 316 grams (0.72 pounds) of MTBE between April 2004 and July 2005.

While evaluation of operation and maintenance data and groundwater monitoring data indicates that the system is successfully achieving its remedial objectives, the operation of the GWETS over the past year has not had a significant impact on removal of MTBE mass. The California Underground Storage Tank Cleanup Fund (USTCF) does not consider the operation of the GWETS as a cost-effective remedial strategy; hence on June 28, 2005, the NCDEM notified Malcolm Pirnie that the USTCF requested the GWETS be shut down. Malcolm Pirnie ceased operation of the GWETS on June 29, 2005.

Natural Attenuation Assessment

As discussed during a February 16, 2005 meeting between the NCDEM, George Altamura (claimant), and Malcolm Pirnie, historical isoconcentration maps included in the quarterly groundwater monitoring reports illustrate that, since 1992, TPH has naturally attenuated; and since 1998, the lateral extent of the on-site dissolved MTBE plume above the MCL has naturally attenuated. The likely processes for attenuation of the Site constituents include dilution, dispersion, volatilization, and biotic transformation. Malcolm Pirnie has not evaluated the relative importance of any of these mechanisms (or estimated individual degradation rates), but instead objectively views attenuation as a single process.

Malcolm Pirnie considers the direct evidence of MTBE degradation between March 1999 and September 2003 (Figures 3 through 6) as the best data from which to estimate average degradation rates. Average estimated degradation rates are presented in Table 1.

Time versus concentration graphs for on-site wells BC-1 through BC-5 (Figures 3 through 7) illustrate a significant reduction in the on-site concentrations in September 2003, approximately 15 months after the startup of the USA Gasoline Station #40 (USA #40) GWETS and 9 months prior to the startup of the Site GWETS. This indicates that that the remedial actions at the USA #40 site are having a noticeable impact on dissolved

contaminant concentrations beneath the Site. The USA #40 site is hydraulically upgradient and cross-gradient from the Site.

MTBE concentrations in monitoring wells BC-1 and BC-3 have been below the MCL since September 2003 (Figure 3) and June 2004 (Figure 4), respectively. MTBE concentrations in well BC-5 have been fluctuating around the MCL since August 2004 (Figure 5). Concentrations of MBTE in well BC-2 decreased from 35,400 µg/L in March 1999 to 2,800 in September 2003, prior to being impacted by the operation of the USA #40 GWETS (Figure 6). The MTBE concentration in well BC-2 was reported to be 40 µg/L in February 2005. Concentrations of MBTE in well BC-4 increased from 1,100 µg/L in December 1999 to 3,300 in July 2002, and then decreased to 2,300 µg/L by September 2003, prior to being impacted by the operation of the USA #40 GWETS (Figure 7). The MTBE concentration in well BC-4 was reported to be 56 µg/L in February 2005.

Dissolved MTBE concentrations are naturally attenuating in on-site wells BC-1, BC-3, BC-5, and BC-2, as illustrated on Figures 3 through 6, respectively. Natural attenuation rates for these wells were calculated between March 1999 and September 2003, prior to impact from the USA #40 GWETS, and are summarized on Table 1. The natural attenuation rates for well BC-1, BC-3 and BC-5 range from 0.0020/day to 0.0024/day. The natural attenuation rate for MTBE in well BC-2 is calculated to be approximately 0.0011/day. The trend line representing the average natural attenuation rate for BC-2 is illustrated on Figure 6.

MTBE concentrations in wells BC-1, BC-3 and BC-5 are currently below MCLs, hence time to reach the MCL is 0 days. The time for the MTBE concentrations in well BC-2 to reach the MCL is estimated by applying the calculated natural attenuation rate to the current (February 2005) concentration. Based on the 0.0011/day degradation rate, Malcolm Pirnie estimates that MTBE concentrations in well BC-2 will reach the MCL in less than 2 years (by April 2007), as illustrated on Figure 6.

Because long-term degradation is not apparent in well BC-4, a natural attenuation rate was not calculated. However, by applying the average of the degradation rates calculated for wells BC-1 through BC-5 (0.0020/day) to the current concentration reported in well BC-4, Malcolm Pirnie estimates that MTBE concentrations in well BC-4 will reach the MCL in less than 3.5 years (by October 2008), as illustrated on Figure 7.

Conclusions

MTBE concentrations in wells BC-1, BC-3, and BC-5 are at or below the MCL. Based on the degradation rates of 0.0011/day in well BC-2 and on the site average

degradation rate of 0.0019/day, MTBE concentrations in other site wells should decrease to below the MCL within 3.5 years.

Request for No Further Corrective Action

The Site presents a low risk to human health or the environment, as dissolved MTBE concentrations do not pose a significant, long-term (chronic) threat. Additionally, TPH and BTEX compounds have naturally degraded to below analytical method reporting limits in most Site-related wells; and MTBE concentrations continue to naturally degrade. Therefore Malcolm Pirnie is requesting no further corrective actions be required for the Site. Pursuant to State Water Board Resolution 92-49, a site may be closed if the Basin Plan requirements are met within a reasonable time frame. The 3.5 year estimate is within the range commonly considered reasonable; hence, Malcolm Pirnie on behalf of George Altamura, requests that the State close the Site and issue a no further action letter. Following receipt of your concurrence with this request, all monitoring and extraction wells associated with the Site will be properly destroyed and the GWETS removed from the Site.

If you have any questions or comments regarding the above evaluation or request for closure, please contact me at (510) 735-3014.

Sincerely,

Malcolm Pirnie, Inc.

Todd Miller, C.Hg.
Project Manager

Attachments:
Table 1
Figures 1 through 7

c: Maryline Laugier, Malcolm Pirnie, Inc.
George Altamura, Altamura Enterprises
David Meyers, Dickenson, Peatman & Fogerty

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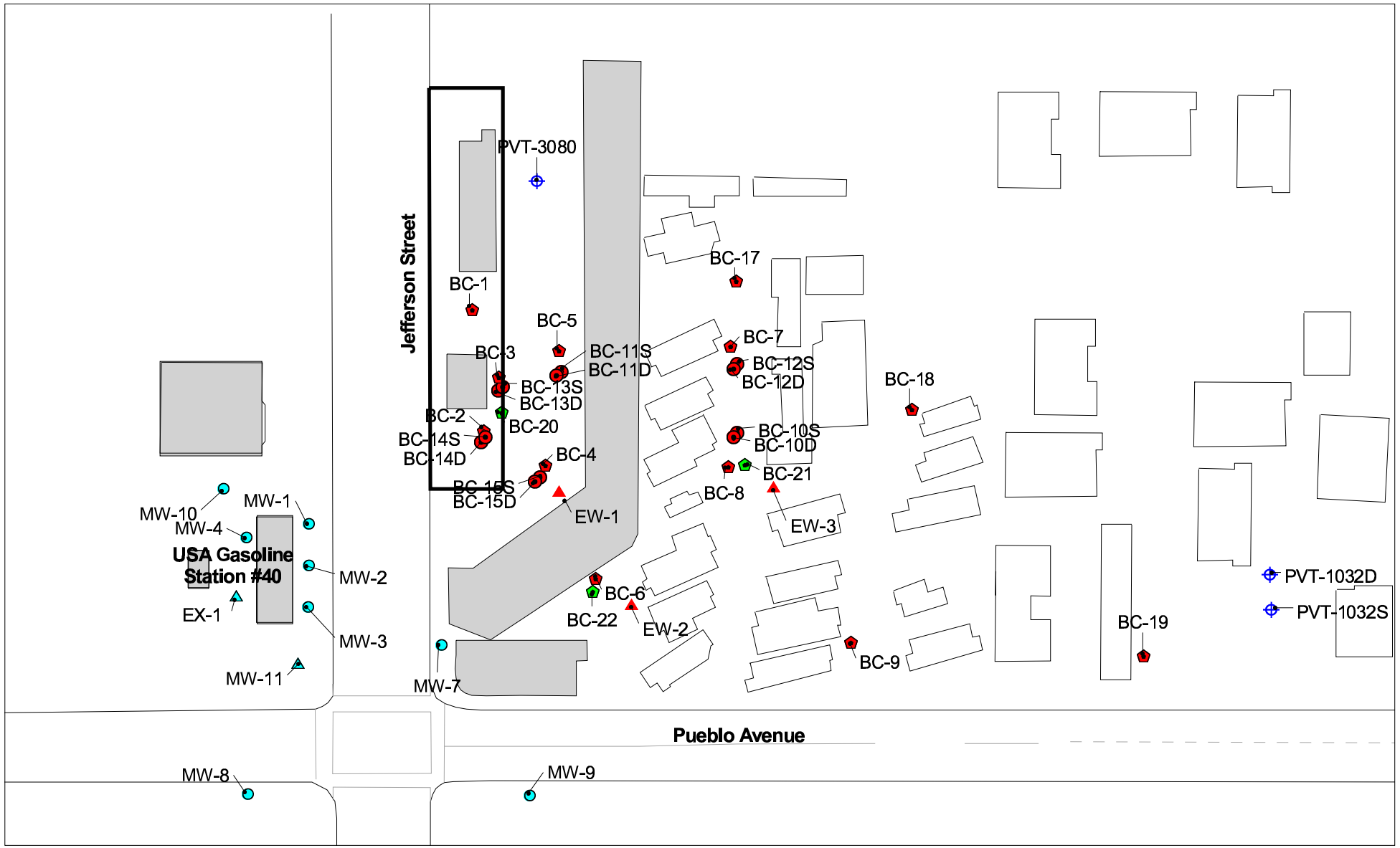
Table 1
Estimation of MTBE Degradation Rates in Select Wells
Jefferson Car Wash, 3080 Jefferson Street, Napa, California

Well ID	Initial Concentration on March 30, 1999 (ug/L)	Ending Concentration for Degradation Calculation (ug/L)	Ending Date for Degradation Calculation	Degradation Rate (%/day)	Actual or Estimated Date at which MCL is reached
BC-1	405	5.5	September 5, 2003	0.22	September 5, 2003
BC-2	35,400	1,505	September 5, 2003	0.17	April 1, 2007
BC-3	6,500	310	September 5, 2003	0.24	June 30, 2004
BC-5	1,890	890	September 5, 2003	0.15	December 1, 2004



Legend

- Extraction Well
- Shallow Monitoring Well
- Multi-Chamber Monitoring Well
- Deep Monitoring Well
- USA Gasoline Monitoring Well
- USA Gasoline Extraction Well
- Private Well
- Buildings
- Site Boundary

Note: Well locations based on Figure 2, Third Quarter 2001 Groundwater Monitoring Report (Brown and Caldwell, August 2001)

N

120 0 120 Feet

Approximate Scale

MALCOLM PIRNIE

Jefferson Car Wash Site
3080 Jefferson Street, Napa, CA

Site and Well Locations

Figure 1 | August 2005

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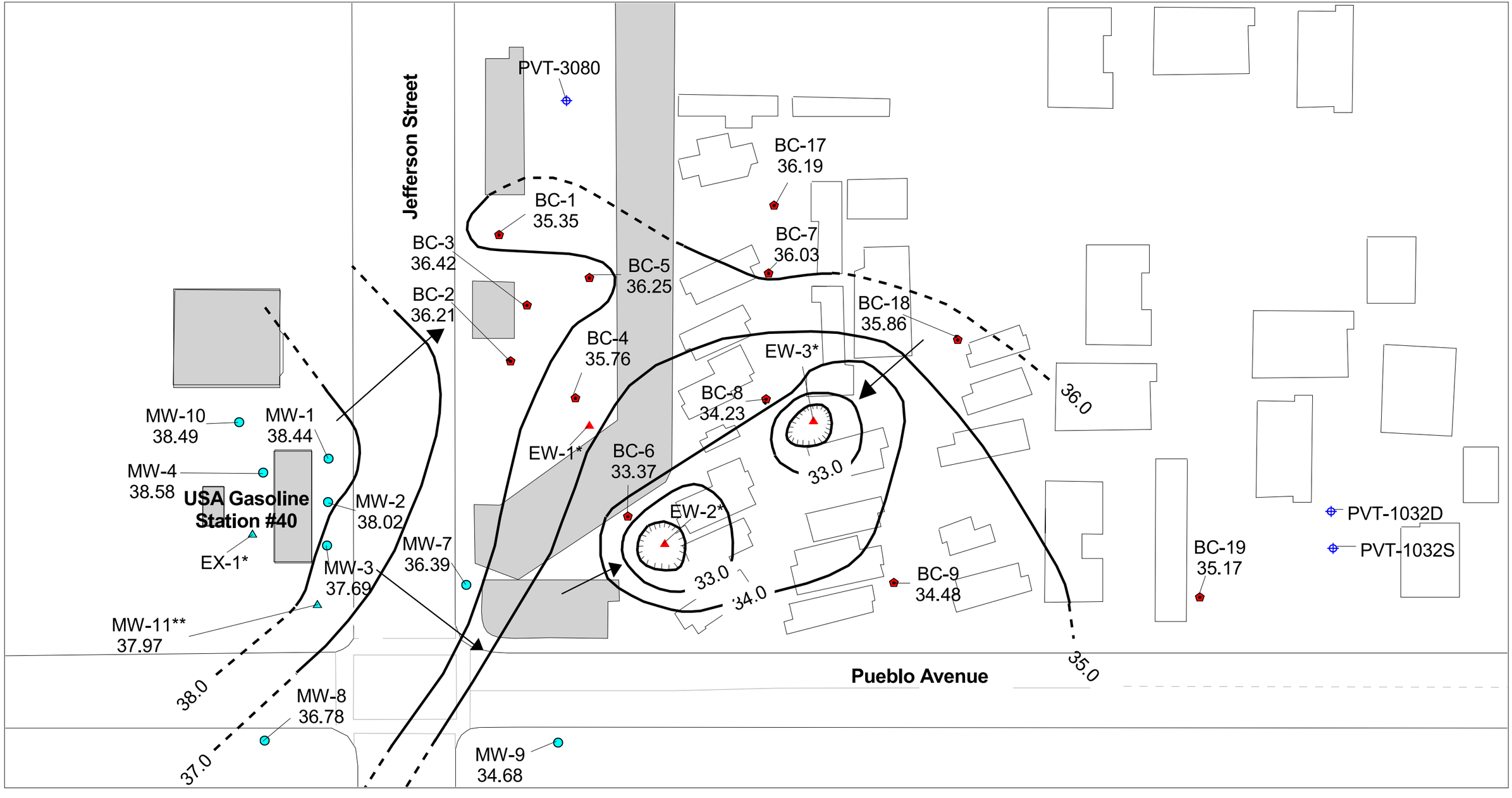

Legend

- Extraction Well
- Shallow Monitoring Well
- USA Gasoline Extraction Well
- USA Gasoline Monitoring Well
- Private Well
- Building
- Direction of Groundwater Flow

BC-4 Monitoring Well ID
35.76 Water Level Data (ft bgs) collected on February 24, 2005

34.0 Groundwater Surface Elevation Contour
Contour Interval = 1.0 ft

* Data unavailable

** MW-11 stopped pumping on February 22, 2005 and was still not pumping on February 24, 2005.

NOTE: Assumed Groundwater Elevations in EW-2 is 28 ft bgs and EW-3 is 29 ft bgs.

Note: Well locations based on Figure 2, Third Quarter 2001 Groundwater Monitoring Report (Brown and Caldwell, August 2001)

N

90 0 90 Feet

Approximate Scale

MALCOLM PIRNIE

Crystal Car Wash Site
3080 Jefferson Street, Napa, CA

Shallow Groundwater Potentiometic Surface Contour Map
February 2005

Figure 2

August 2005

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Figure 3 - MTBE Concentration vs. Time at BC-1

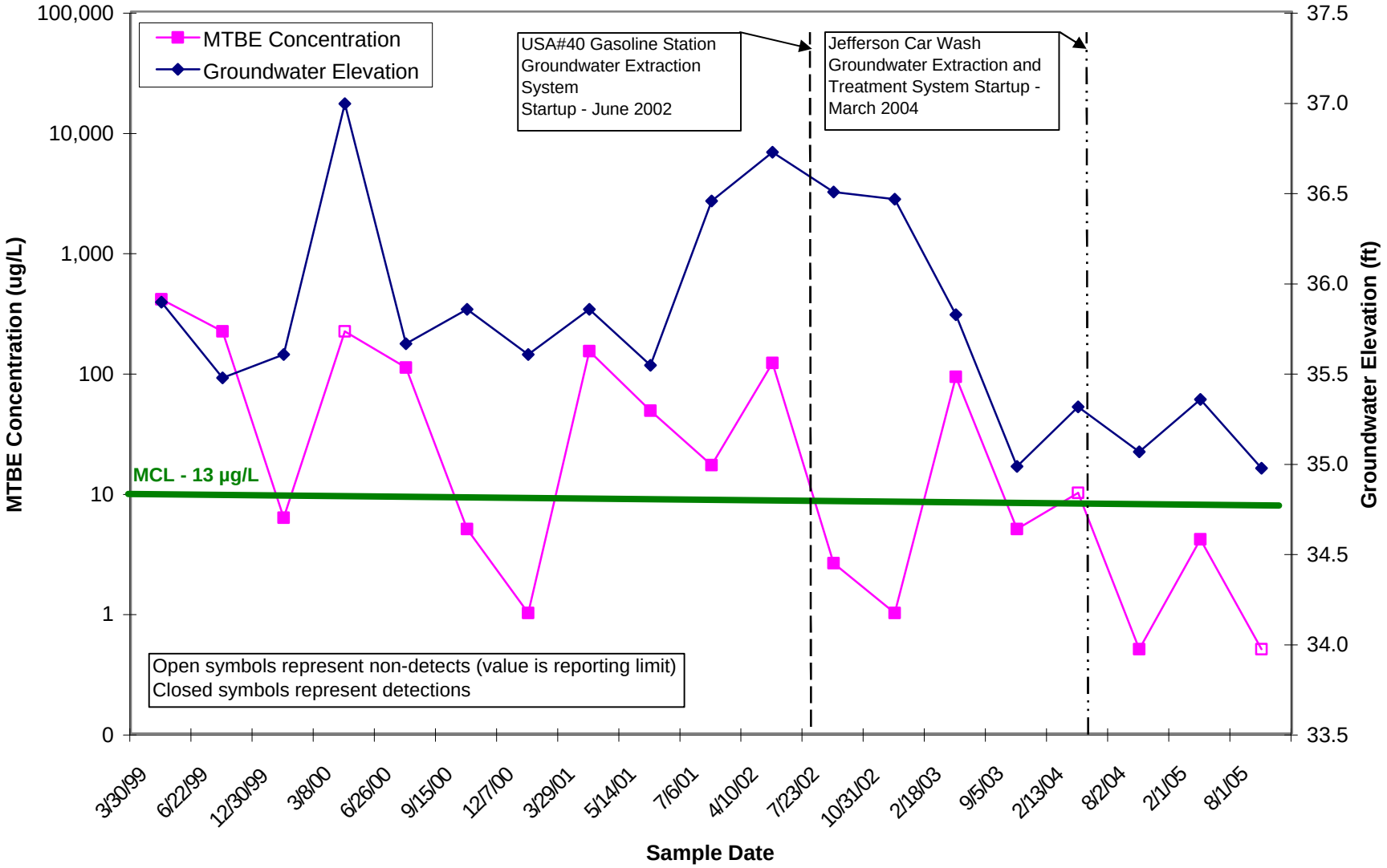

Figure 4 - MTBE Concentration vs. Time at BC-3

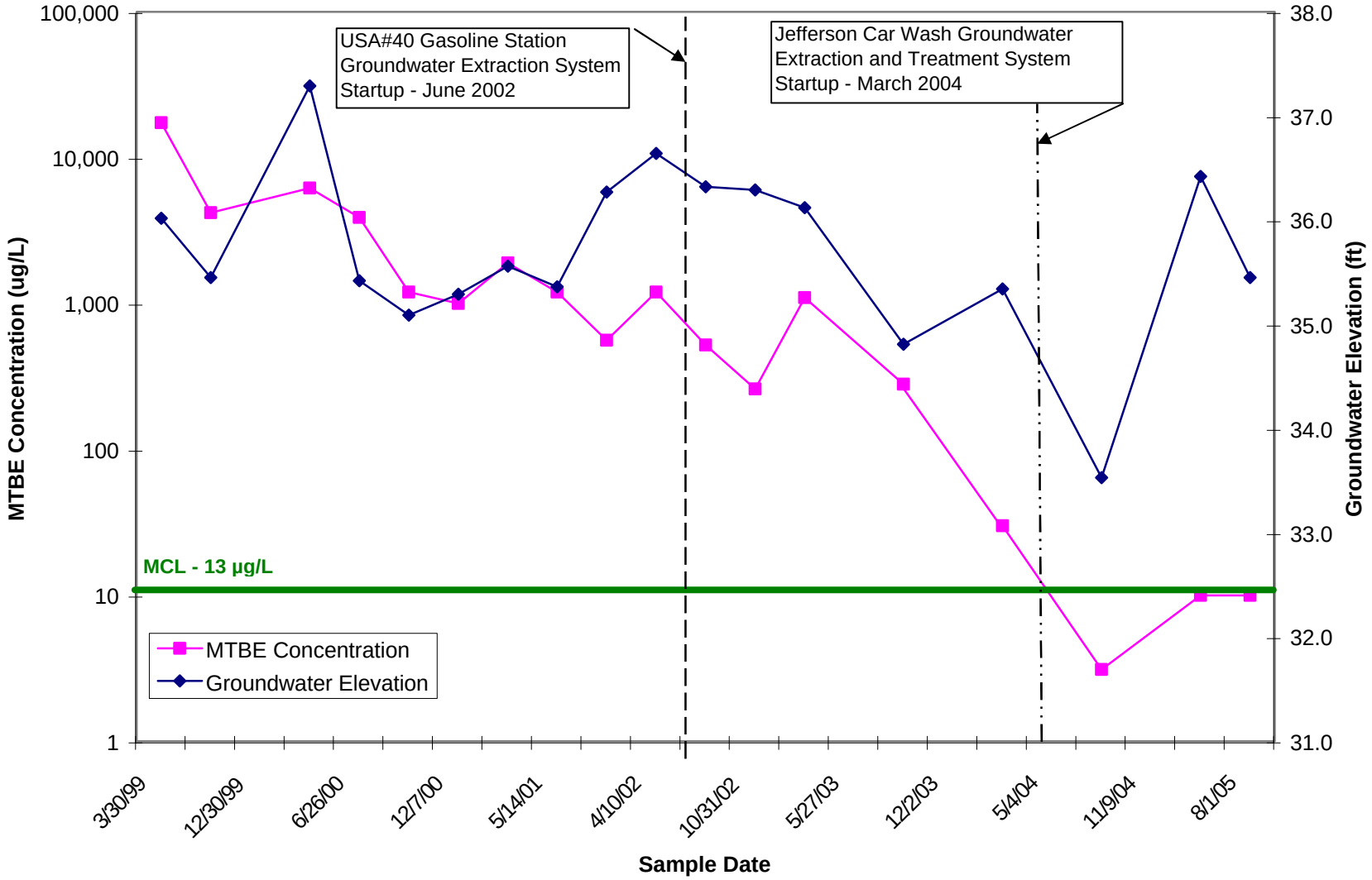

Figure 5 - MTBE Concentration vs. Time at BC-5

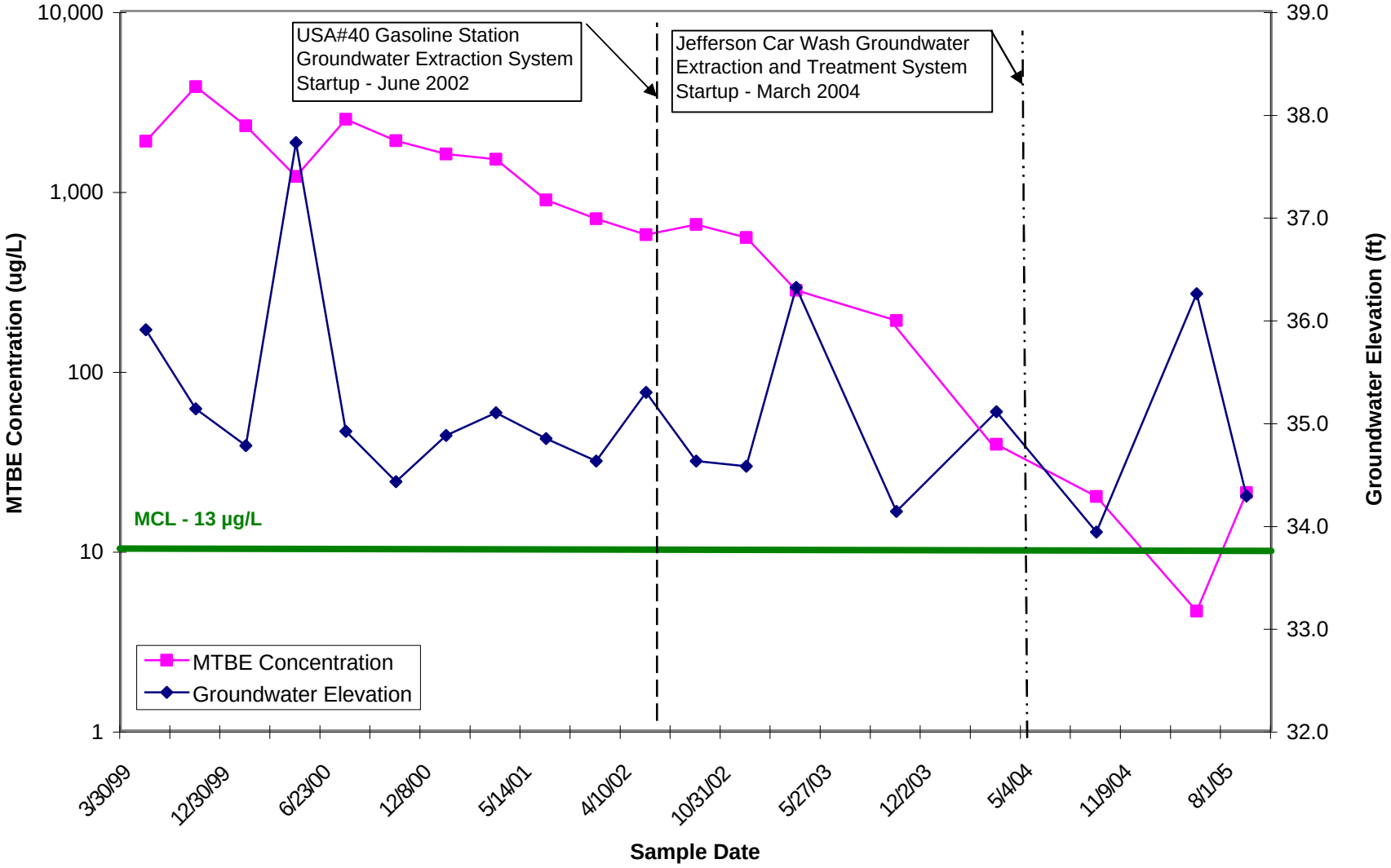

Figure 6 - MTBE Concentration vs. Time at BC-2

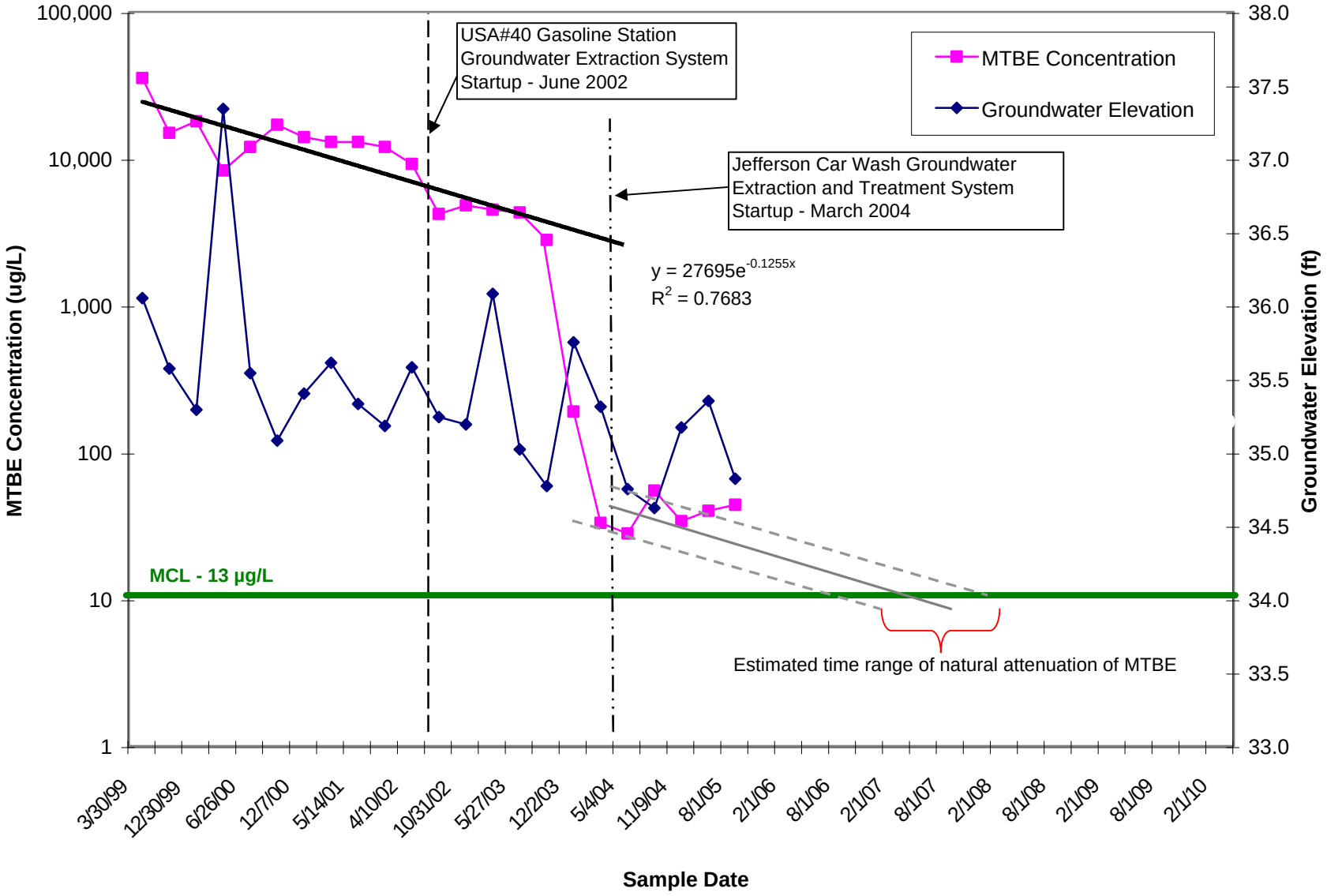

Figure 7 - MTBE Concentration vs. Time at BC-4